

### **REMARKS**

This Reply responds to the Office Action mailed December 22, 2005. Claims 1-3 are pending in the application. Applicants thank the Examiner for acknowledging the claim to foreign priority and for entry of the preliminary amendment.

#### ***Summary of the Office Action***

In the Office Action, claim 1 is rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,972,265 to Schwarz ("Schwarz"), claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Schwarz in view of U.S. Patent No. 6,518,588 to Parkin *et al.* ("Parkin"). Although the Examiner has indicated that claim 3 is rejected, no art has been cited against claim 3. The rejections and objections are respectfully traversed based upon the following remarks.

#### ***Response to the rejection of claim 1 under 35 U.S.C. § 102(e)***

The rejection of claim 1 is traversed because Schwarz fails to disclose all elements of the claim as recited. Specifically, claim 1 recites, *inter alia*, "sequentially forming a barrier layer and an insulating film on the entire surface." As shown in Fig. 3c, barrier layer 55 is formed over the entire surface of the device. See also page 8, lines 7-20.

In contrast, the Examiner has identified the spacers 42 or 50 of Schwarz as disclosing the barrier layer 55 of the instant invention. See Office Action dated December 22, 2006, p. 3. However, as shown in Figs. 5-8 of Schwarz, neither barrier layer 42 nor barrier layer 50 is formed over the entire surface of the device. As disclosed by Schwarz in col. 12, lines 50-55, the spacers 42 are formed only on "adjacent portions of metal insulating layer 32." As disclosed by Schwarz in col. 15, lines 4-6, the spacers 50 are formed in the same manner as spacer 42. Thus, Schwarz fails to disclose "forming a barrier layer and an insulating film on the entire surface" as recited in claim 1.

Moreover, claim 1 of the instant invention recites, *inter alia*, "etching the hard mask layer and the free magnetic layer in a photolithography process using a MTJ cell mask to expose the tunnel barrier layer." As shown in Figs. 3b and 3c, the barrier layer 55 is formed after the hard mask 53 is removed. See also page 8, lines 7-20.

In contrast, in Schwarz the alleged hard mask layer 36 as well as MTJ cell mask 38 are not removed and are present when the barrier layer 42 is formed. See Schwarz, Figs. 4-8.

Since Schwarz fails to disclose all of the features of claim 1 as amended, Applicants submit that the claim is allowable over the reference, and withdrawal of the rejection under 35 U.S.C. § 102(e) is respectfully requested.

### ***Response to the rejection of claim 2 under 35 U.S.C. § 103***

The rejection of claim 2 is traversed because the claim depends from claim 1 and Parkin combined with Schwarz fails to rectify the deficiency in Schwarz discussed above. The Examiner correctly indicates that Schwarz fails to teach forming a Ta barrier layer and an insulating film as recited in claim 2. While the Examiner cites Parkin to cure this deficiency of Schwarz, Parkin fails to teach or disclose either "sequentially forming a barrier layer and an insulating film on the entire surface" or "etching the hard mask layer and the free magnetic layer in a photolithography process using a MTJ cell mask to expose the tunnel barrier layer" as recited in claim 1.

Accordingly, the combination of Schwarz and Parkin, taken individually or in combination, fail to disclose every element of claim 1. Consequently, as claim 2 includes all of the limitations of claim 1 from which it depends, Schwarz and Parkin, taken individually or in combination, fail to disclose every element of claim 2. Therefore, Applicants respectfully submit that claim 2 is patentable over the combination. Accordingly, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 103(a) of claim 2.

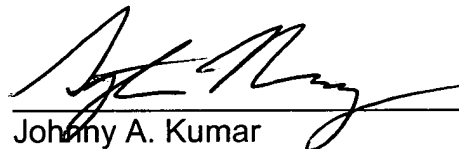
While the Office Action does not specify references supporting the rejection of claim 3, Applicants submit that claim 3 is allowable for the same reasons discussed above with respect to claim 1 from which it depends. Accordingly, withdrawal of the rejection of claim 3 is respectfully requested.

Conclusion

In view of the above amendment and remarks, Applicants respectfully submit that the Application is now in condition for allowance. The Examiner is invited to contact the undersigned for any reason related to the advancement of this case.

Respectfully submitted,

March 22, 2006  
Date

  
for Johnny A. Kumar  
Reg. No. 34,649

Reg. No  
46,307

HELLER EHRMAN LLP  
1717 Rhode Island Avenue, N.W.  
Washington, D.C. 20036  
Tel: 202-912-2000  
Fax: 202-912-2020  
Customer No. 26633